

FIG. 1 (Prior Art)

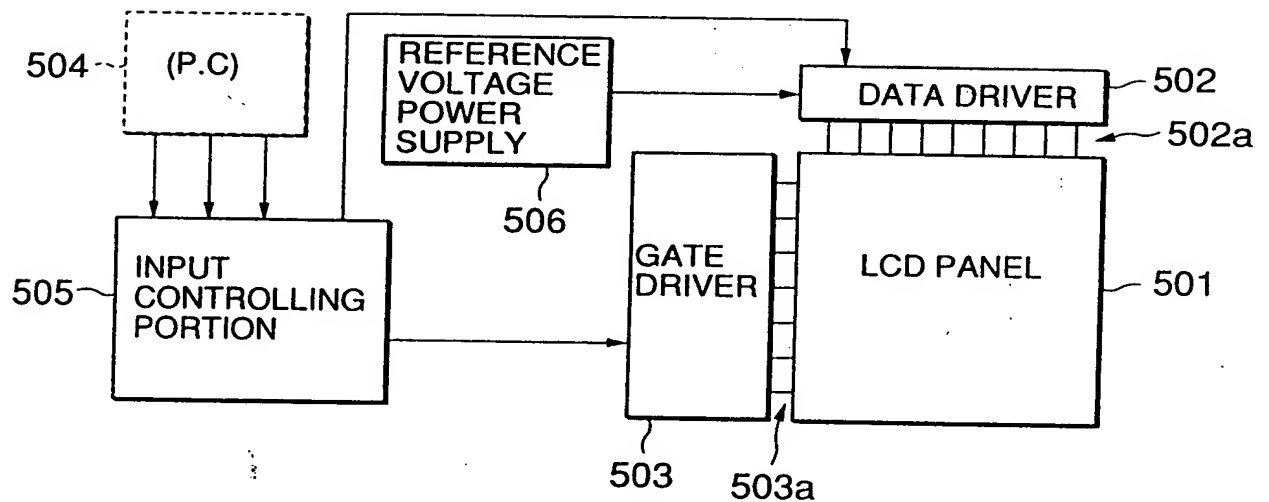


FIG. 2 (Prior Art)

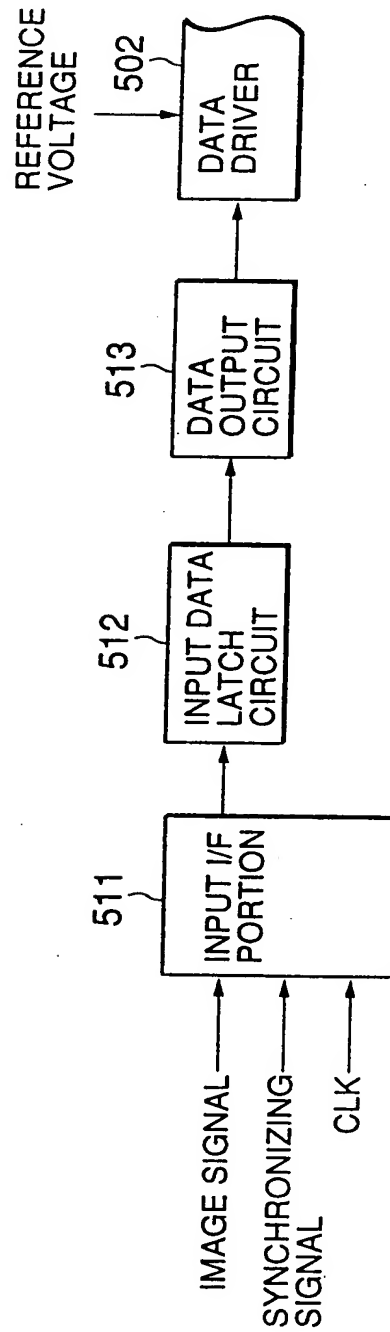


FIG. 3

SECTIONAL SHAPE OF LIQUID CRYSTAL PANEL

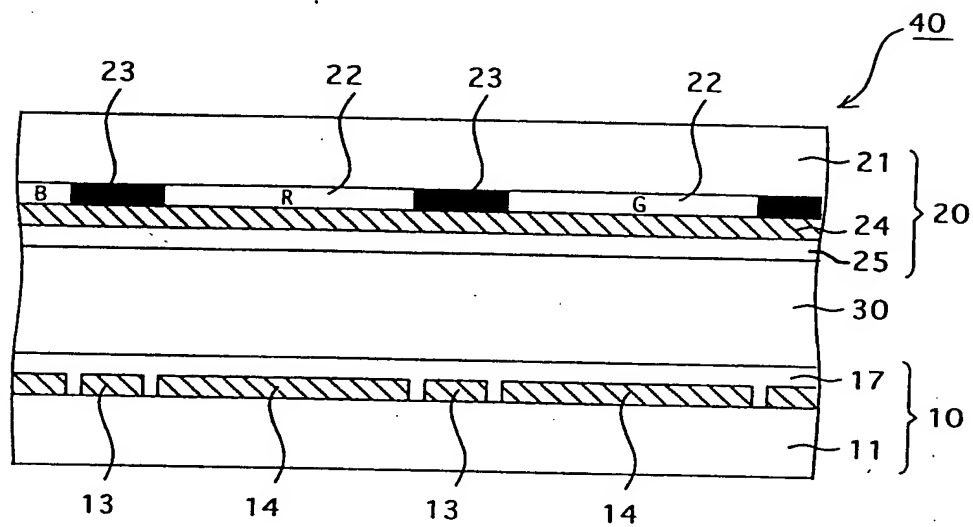


FIG. 4
 LIQUID CRYSTAL DISPLAY PANEL

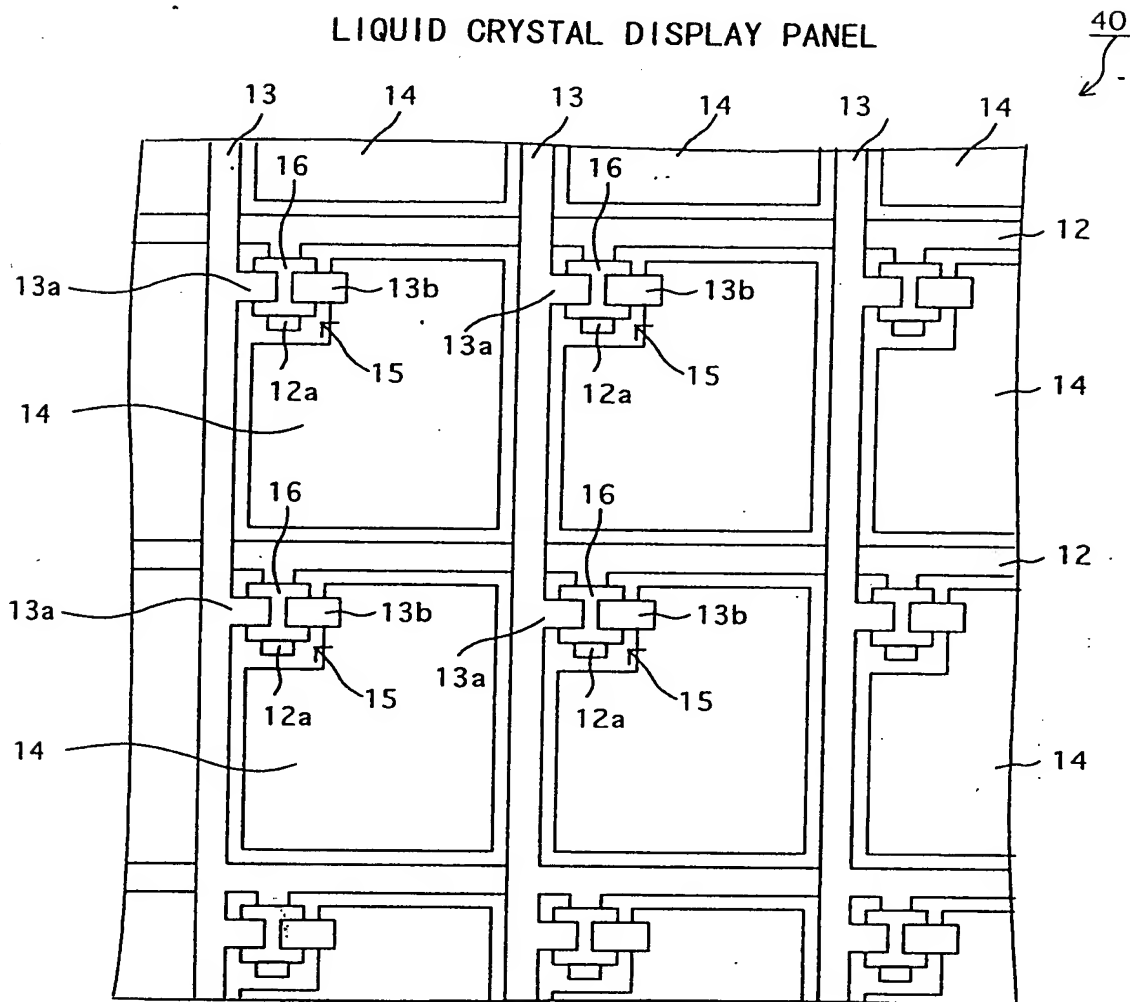


FIG. 5

CONFIGURATION OF LIQUID CRYSTAL DISPLAY DEVICE

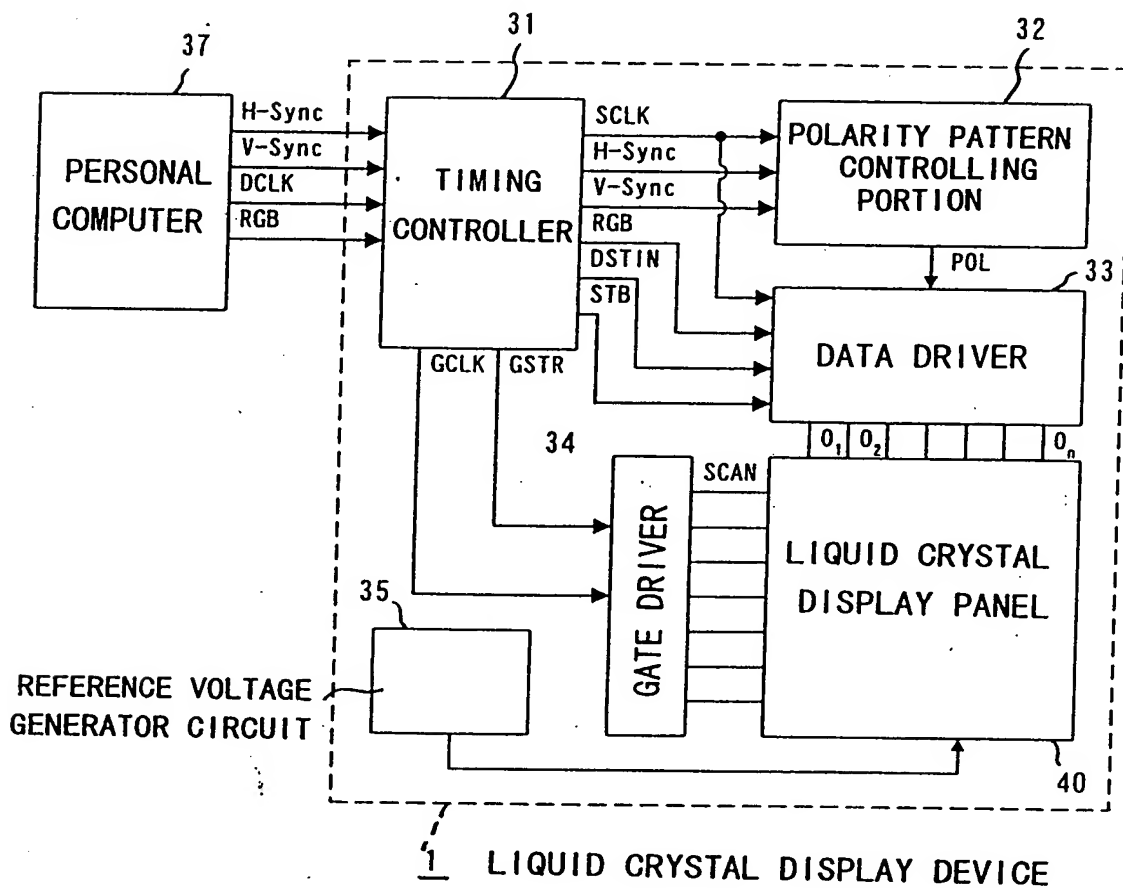


FIG. 6

TIMING CHART (1)

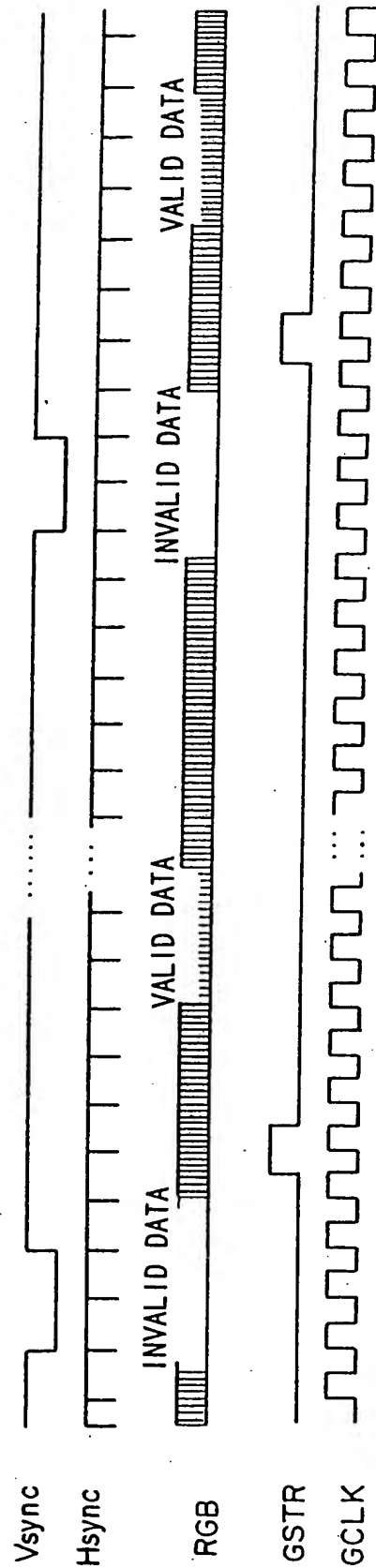


FIG. 7

TIMING CHART (2)

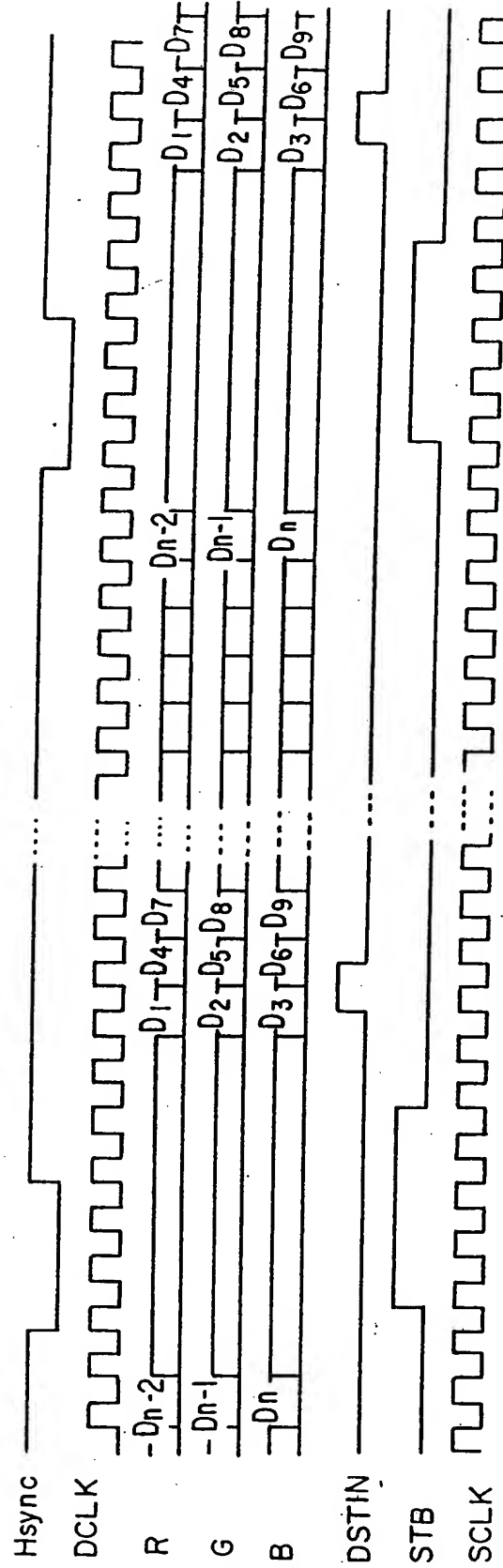


FIG. 8

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION 32

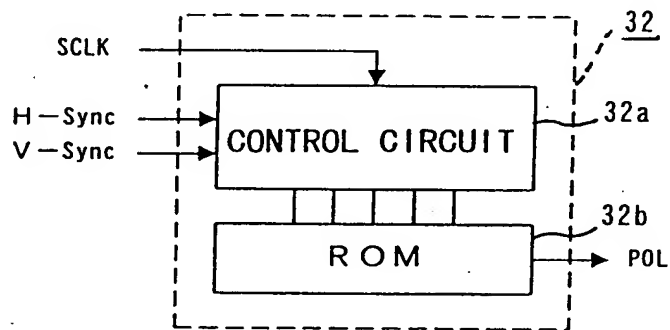


FIG. 9

CONFIGURATION OF DATA DRIVER 33

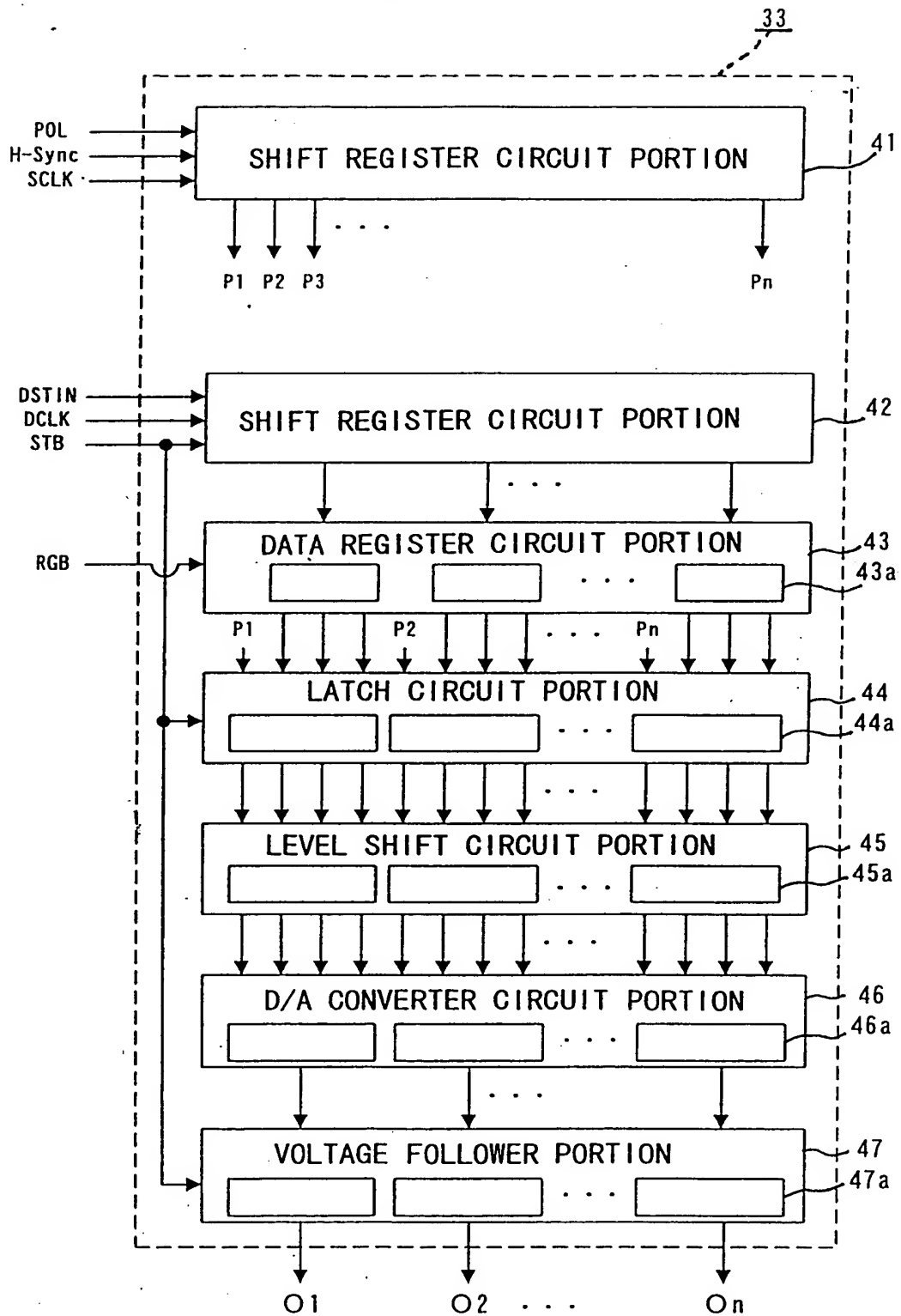


FIG. 10

CONFIGURATION OF D/A CONVERTER 46a

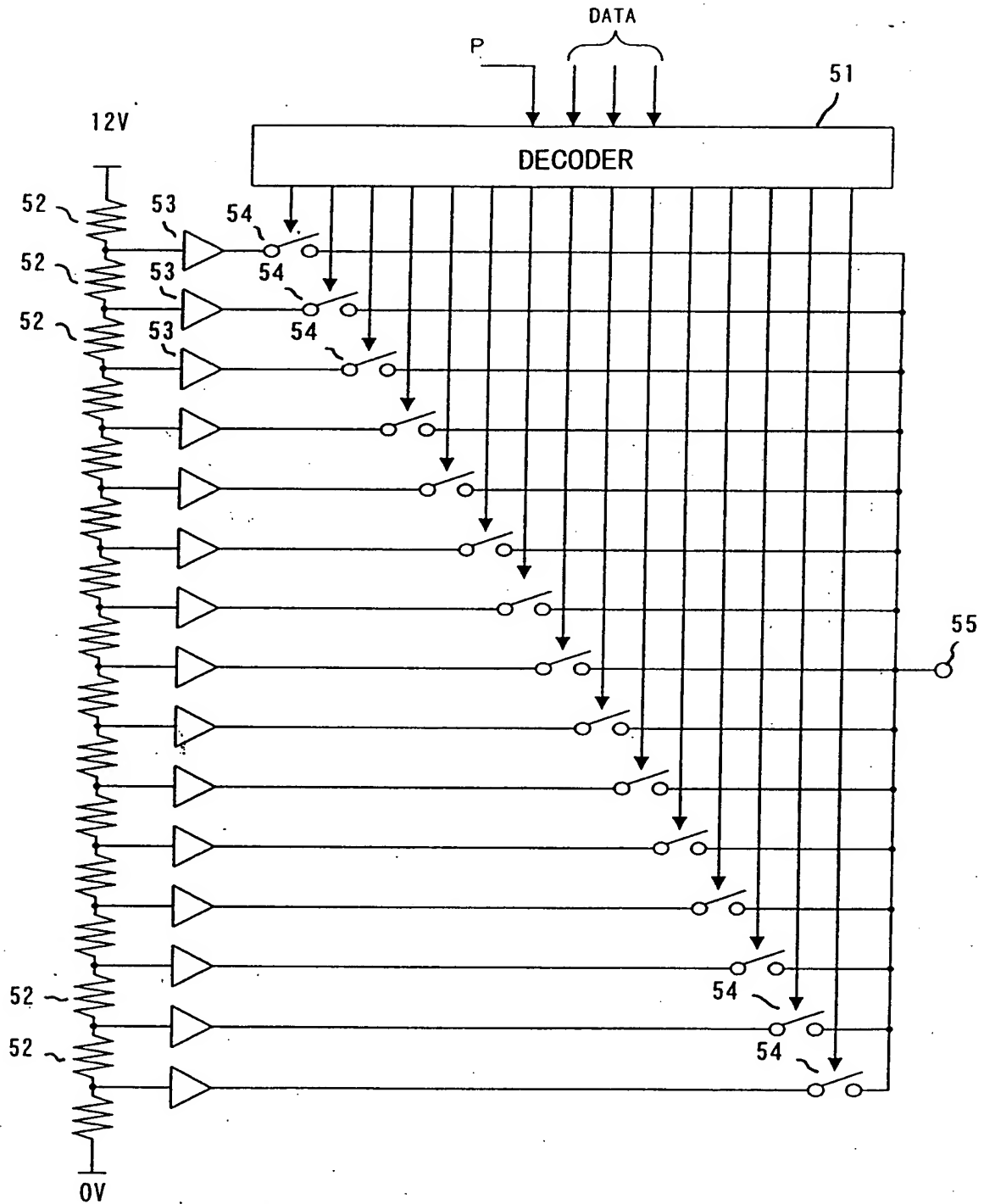


FIG. 11

INPUT/OUTPUT OF DECODER 51

DECODER INPUT

0	1	1	1
0	1	1	0
0	1	0	1
0	1	0	0
0	0	1	1
0	0	1	0
0	0	0	1
0	0	0	0
1	0	0	0
1	0	0	1
1	0	1	0
1	0	1	1
1	1	0	0
1	1	0	1
1	1	1	0
1	1	1	1

DECODER OUTPUT

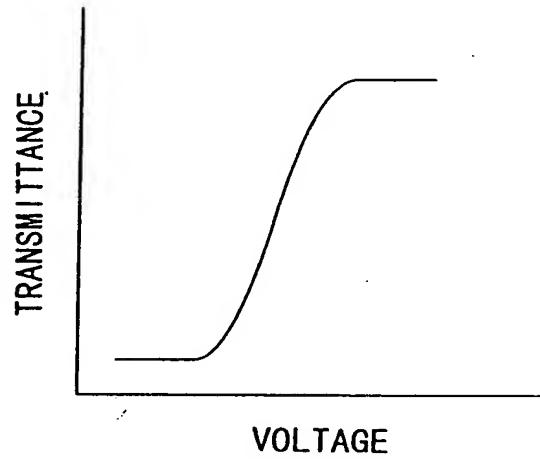
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

D/A CONVERTER OUTPUT

+V7
+V6
+V5
+V4
+V3
+V2
+V1
+V0
-V0
-V1
-V2
-V3
-V4
-V5
-V6
-V7

FIG. 12

VOLTAGE-TRANSMITTANCE CHARACTERISTIC



EXAMPLE OF POLARITY PATTERN (1)

FIG. 13A

DISPLAY PIXEL

14			14								
R	G	B	R	G	B	R	G	B	R	G	B
+	+	+	+	+	+	+	+	+	+	+	+
R	G	B	R	G	B	R	G	B	R	G	B
+	+	+	+	+	+	+	+	+	+	+	+

FIG. 13B

DISPLAY PIXEL

[illegible]

FIG. 13C

DISPLAY PIXEL

[illegible]

FIG. 13D

DISPLAY PIXEL

14			14								
R	G	B	R	G	B	R	G	B	R	G	B
+	-	+	-	+	-	+	-	+	-	+	-
R	G	B	R	G	B	R	G	B	R	G	B
-	+	-	+	-	+	-	+	-	+	-	+

FIG. 14

EXAMPLE OF POLARITY PATTERN (2)

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B	
+	+	-	-	+	+	-	-	+	+	-	-	
R	G	B	R	G	B	R	G	B	R	G	B	
-	-	+	+	-	-	+	+	-	-	+	+	

14

CASE OF ODD-NUMBERED FRAME

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B	
-	-	+	+	-	-	+	+	-	-	+	+	
R	G	B	R	G	B	R	G	B	R	G	B	
+	+	-	-	+	+	-	-	+	+	-	-	

14

CASE OF EVEN-NUMBERED FRAME

DISPLAY PATTERN

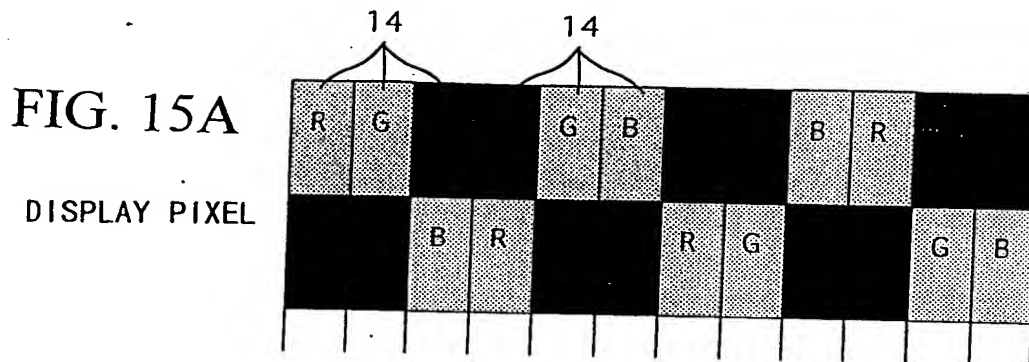


FIG. 15B

DARK YELLOW	DARK SKY BLUE	DARK BLUE	DARK RED
DARK BLUE	DARK RED	DARK YELLOW	DARK SKY BLUE

— — — — —

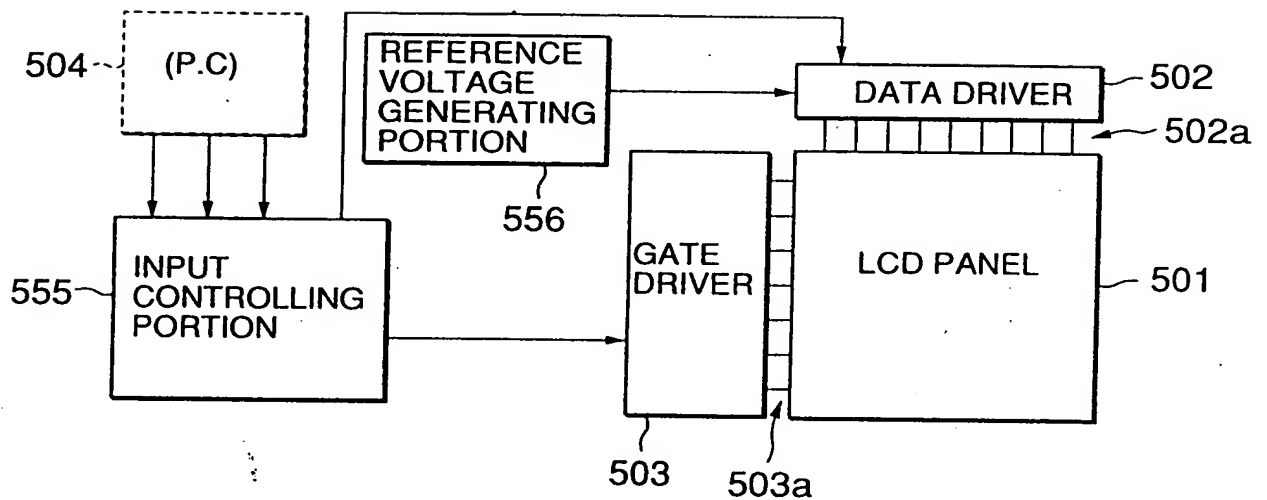


FIG. 17

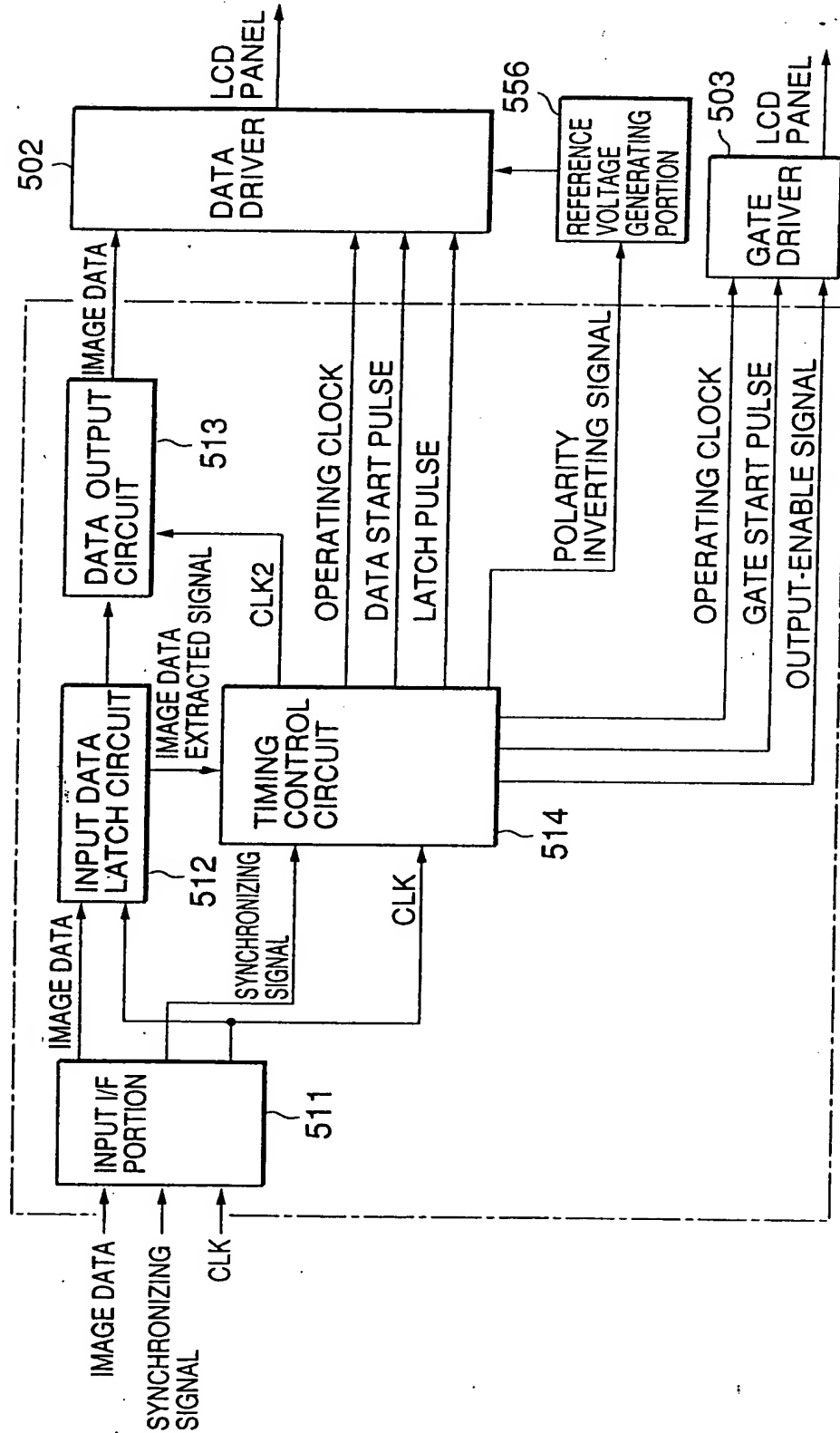


FIG. 18

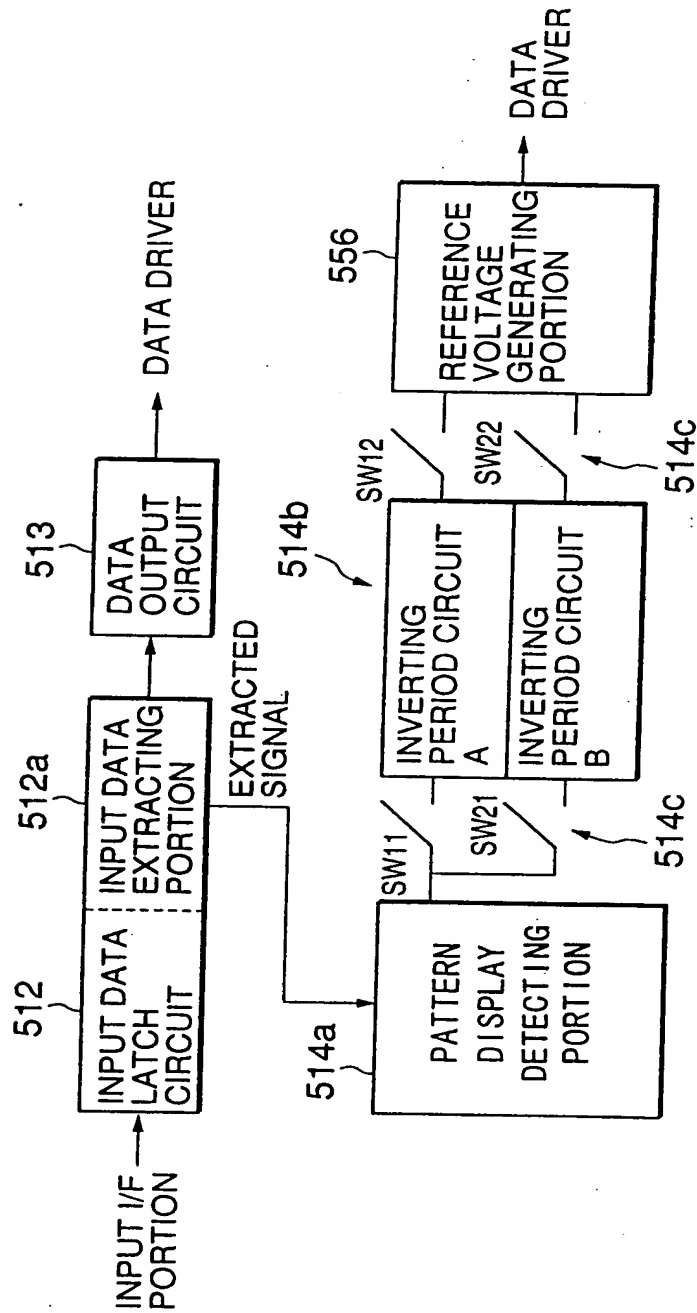


FIG. 19

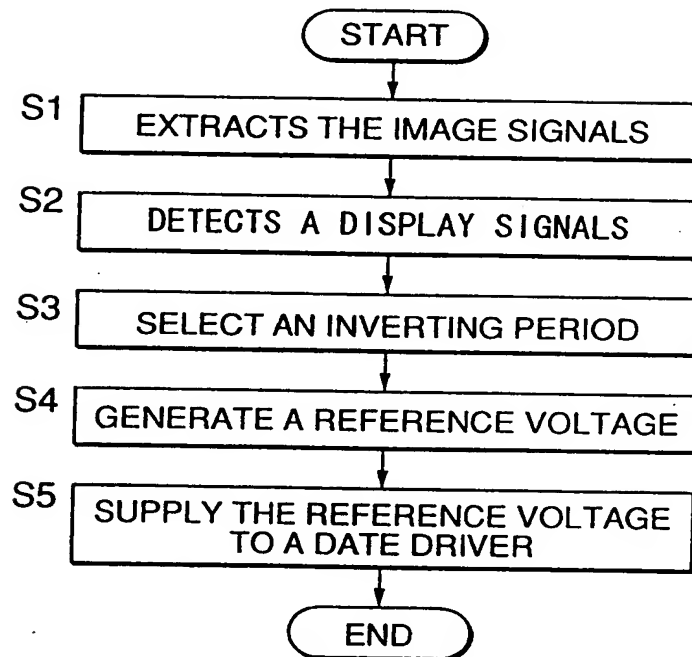


FIG. 20A

R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
-	+	-	+	-	+
R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
-	+	-	+	-	+

FIG. 20B

R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
-	+	-	+	-	+
R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
-	+	-	+	-	+

FIG. 20C

R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
-	+	-	+	-	+
R	G	B	R	G	B
-	+	-	+	-	+

FIG. 20D

R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
+	-	+	-	+	-
R	G	B	R	G	B
+	-	+	-	+	-

FIG. 21

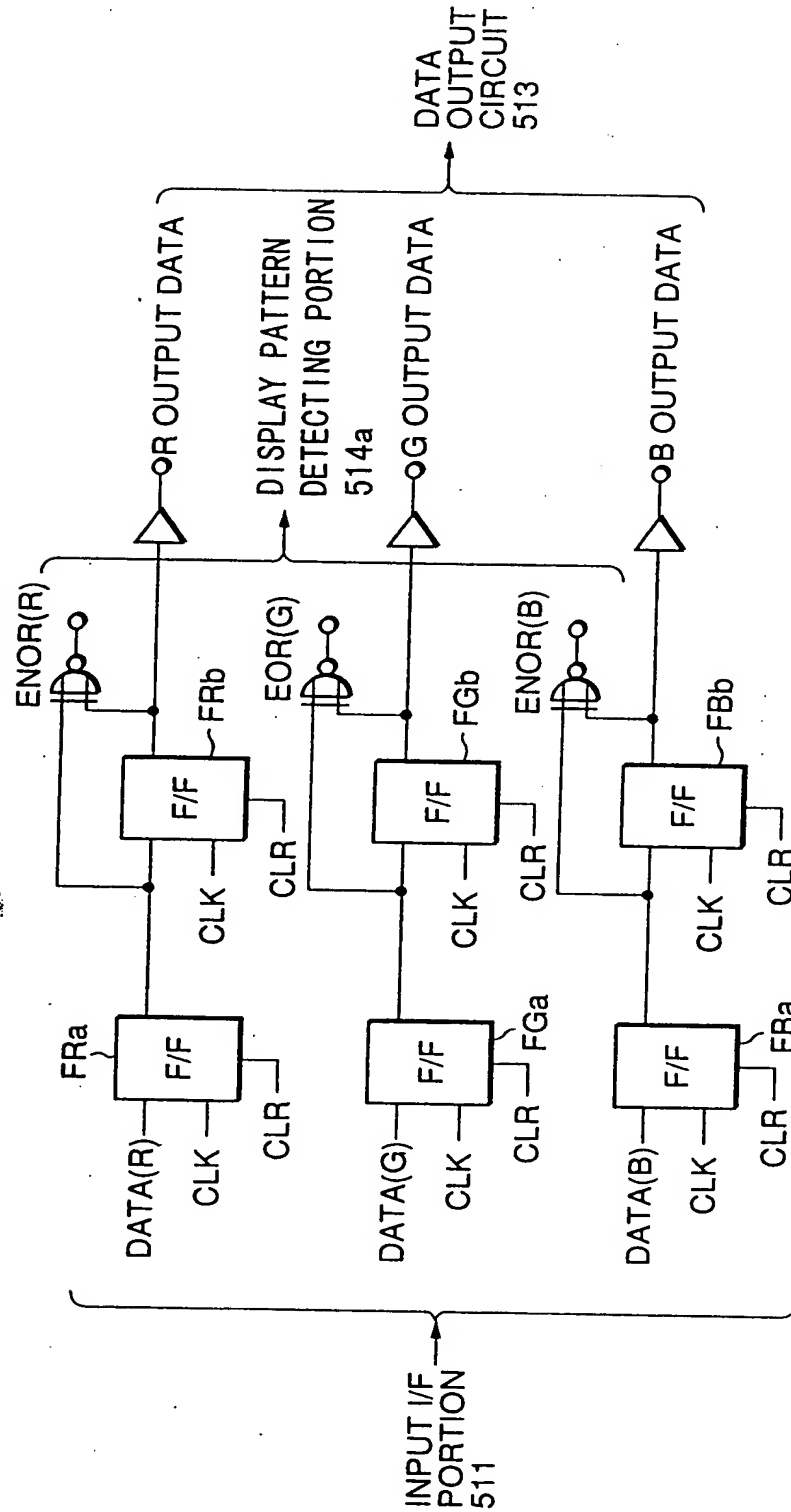


FIG. 22

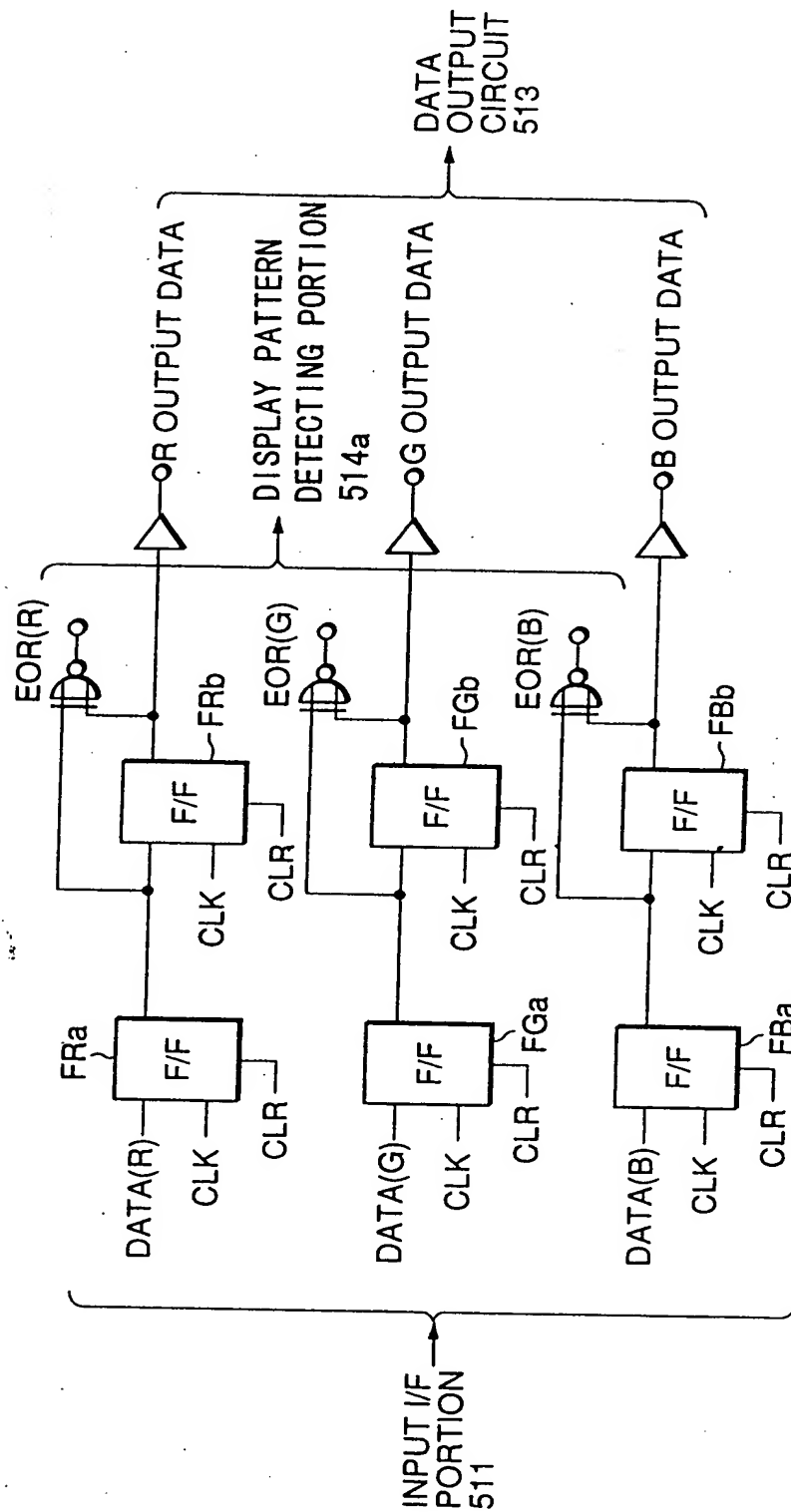


FIG. 23

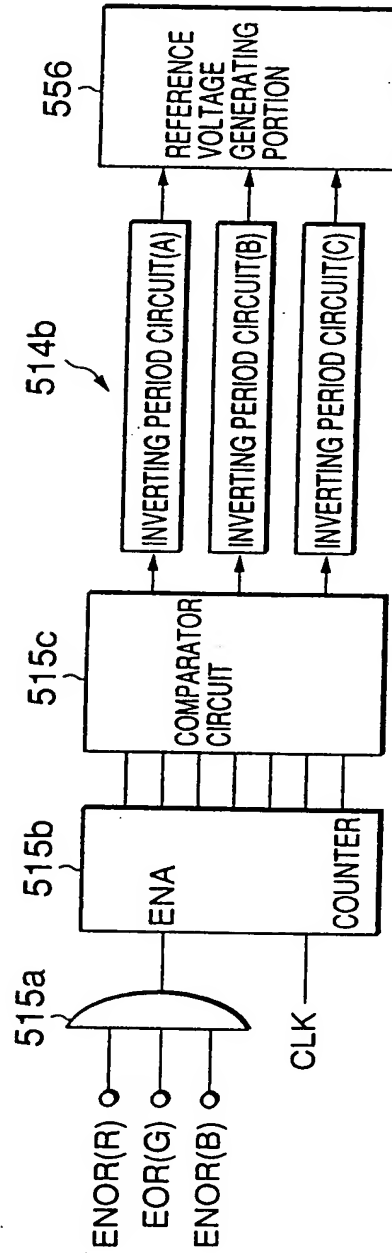
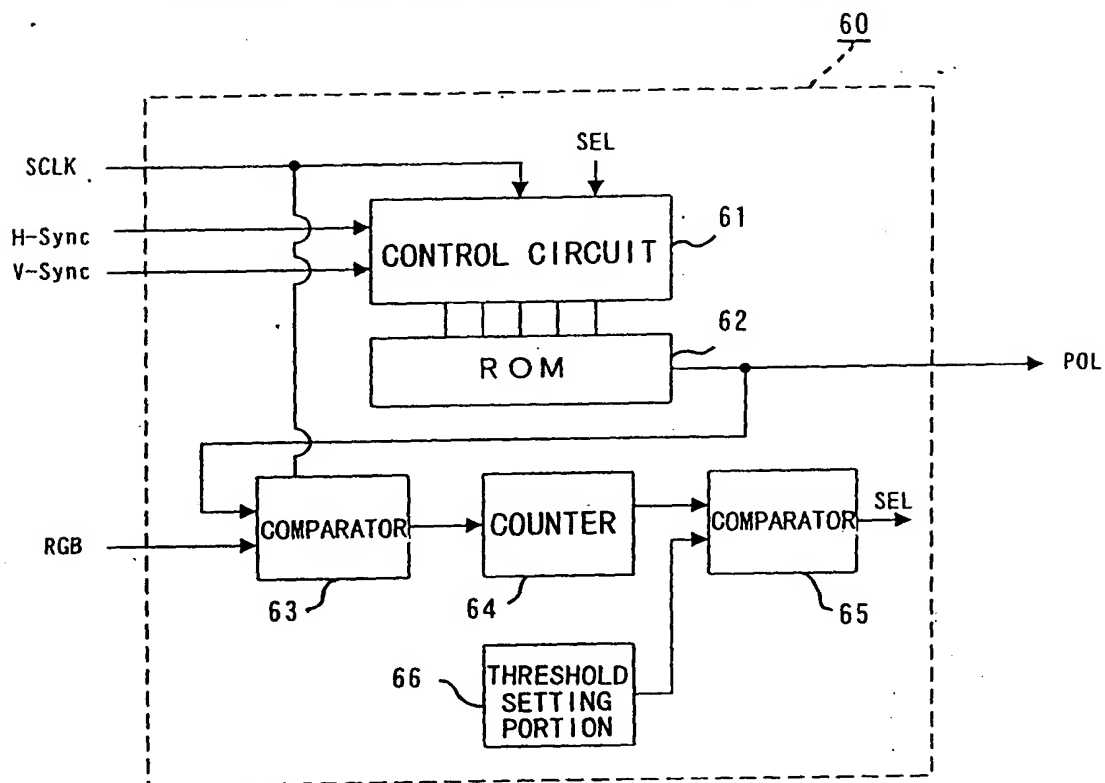


FIG. 24

POLARITY PATTERN CONTROLLING PORTION



EXAMPLE OF POLARITY PATTERN (3)

FIG. 25A

OUTPUT	01	02	03	04	05	06	07	08	09	010	011	012	013	014	015	016
POLARITY	+	+	-	+	-	-	+	+	-	+	-	-	+	+	-	+

POLARITY PATTERN SIGNAL (POL)

FIG. 25B

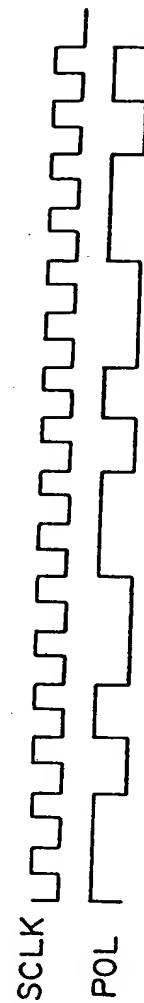


FIG. 26

POLARITY PATTERN CONTROLLING PORTION

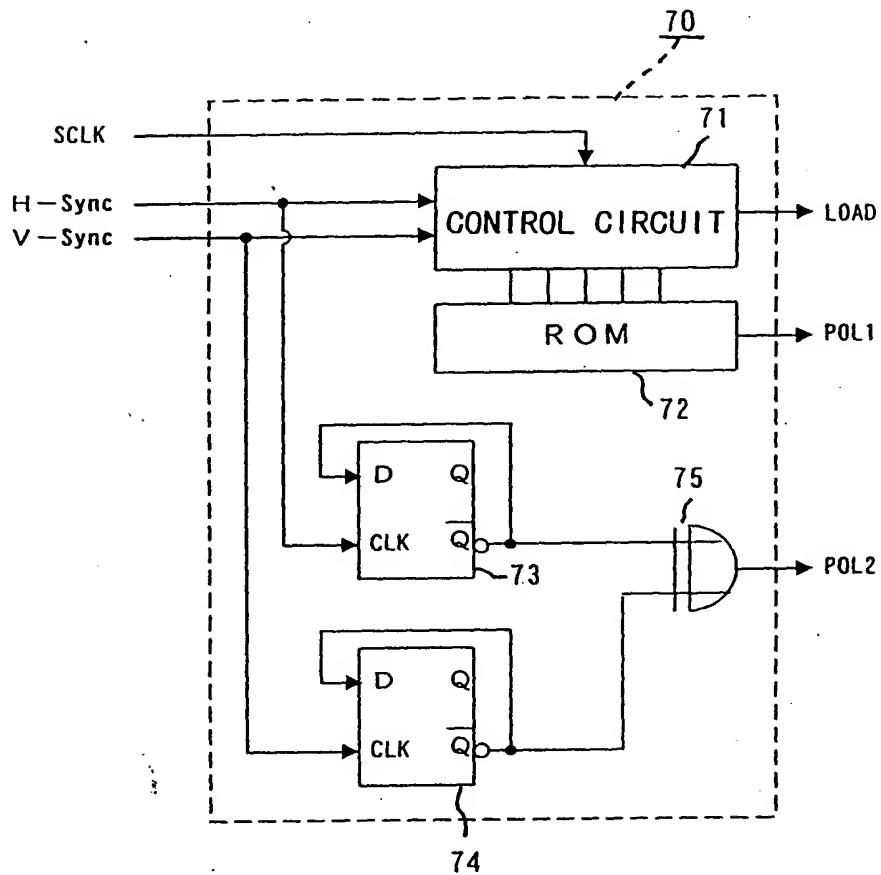


FIG. 27

DATA DRIVER

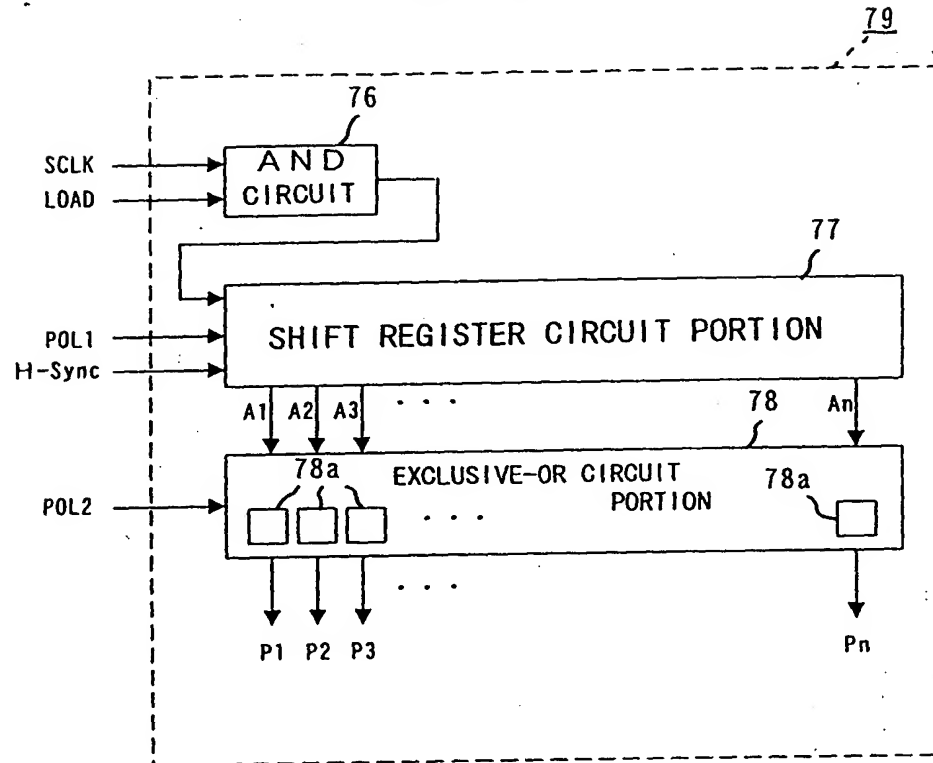


FIG. 28

TIMING CHART (3)

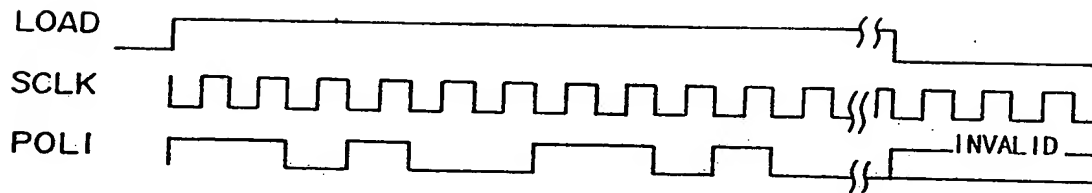


FIG. 29

EXAMPLE OF POLARITY PATTERN

OUTPUT			01	02	03	04	05	06	07	08	09	010	011	012
POLARITY	POL2	0	+	+	-	+	-	-	+	+	-	+	-	-
		1	-	-	+	-	+	+	-	-	+	-	+	+

FIG. 30

VOLTAGE APPLIED TO PIXEL

14

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B
+	+	-	+	-	-	+	+	-	+	-	-
R	G	B	R	G	B	R	G	B	R	G	B
-	-	+	-	+	+	-	-	+	-	+	+

FIG. 31

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION

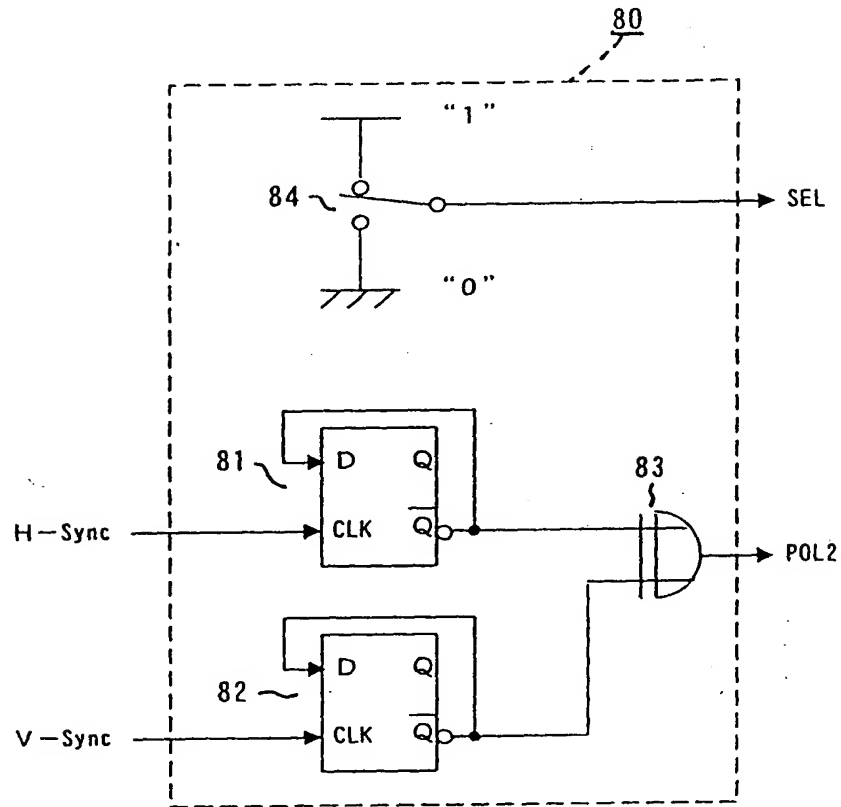


FIG. 32

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION

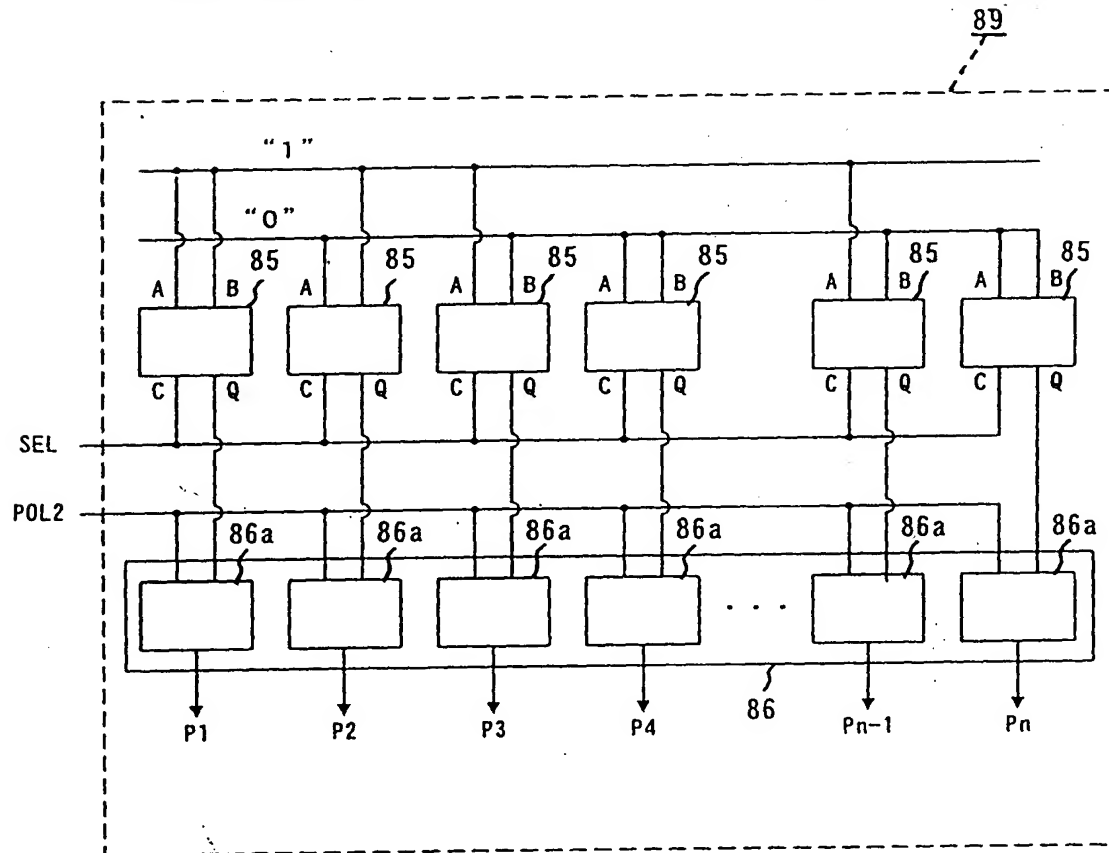


FIG. 33

INPUT/OUTPUT OF LOGIC CIRCUIT

A	B	C	Q
1	1	0	1
0	1	0	0
1	0	0	1
0	0	0	0

A	B	C	Q
1	1	1	1
0	1	1	1
1	0	1	0
0	0	1	0

FIG. 34A

POLARITY INVERSION IN SEL=0

[illegible]

FIG. 34B

POLARITY INVERSION IN SEL=1

[illegible]

FIG. 35

BLOCK PARTITION OF SCREEN

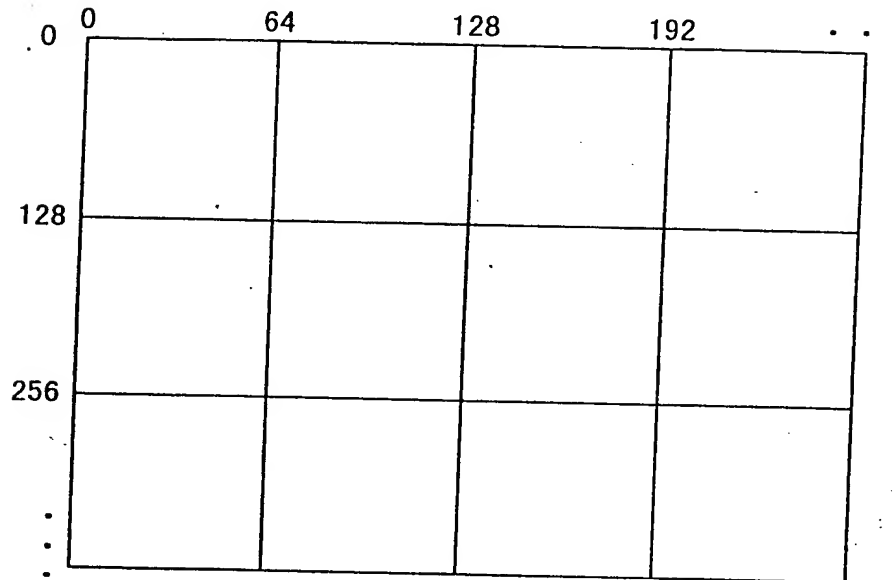


FIG. 36A

FIRST POLARITY PATTERN

+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-

FIG. 36B

SECOND POLARITY PATTERN

+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-

FIG. 37
LIQUID CRYSTAL DISPLAY PANEL DRIVE CIRCUIT

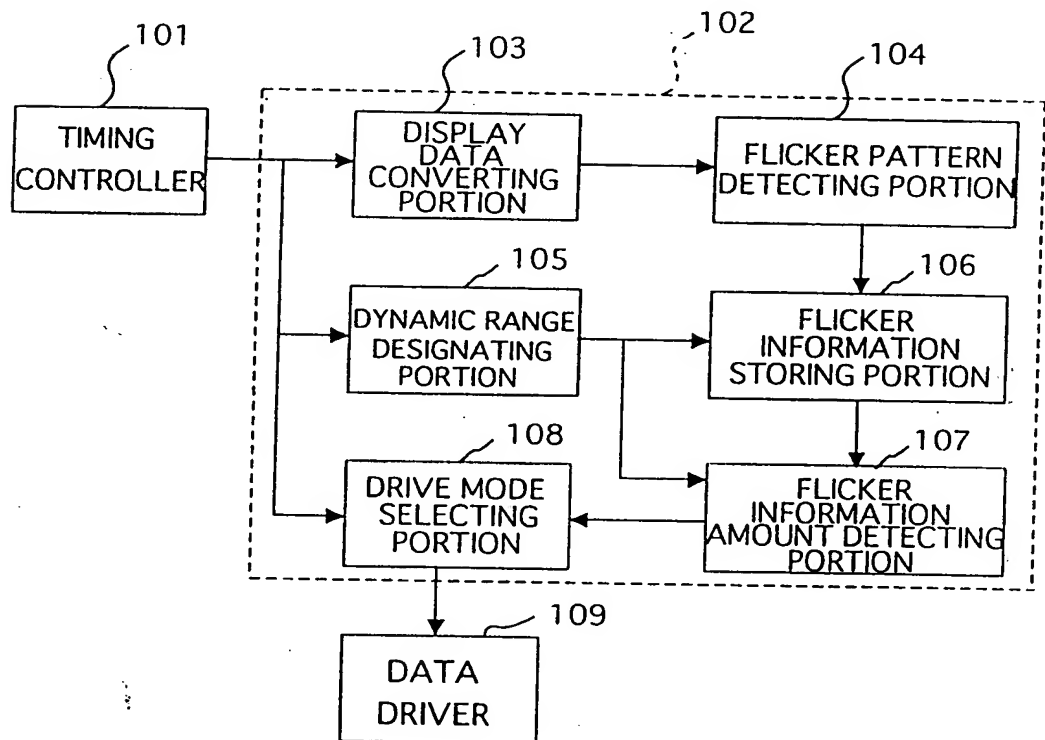


FIG. 38
 DISPLAY DATA CONVERTING PORTION

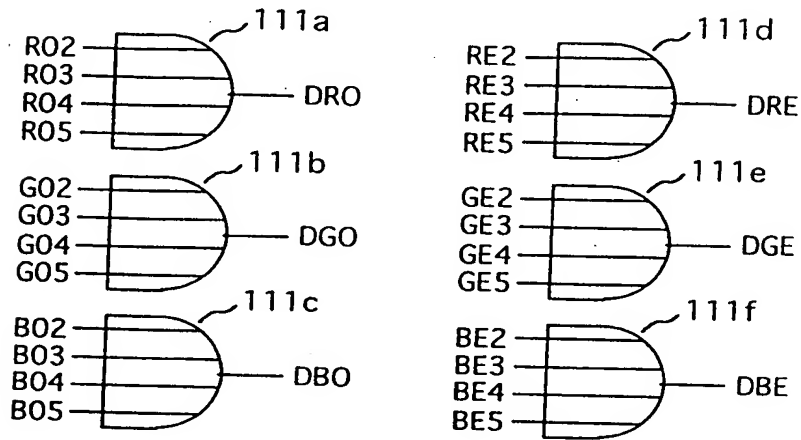


FIG. 39
 FLICKER PATTERN DETECTING

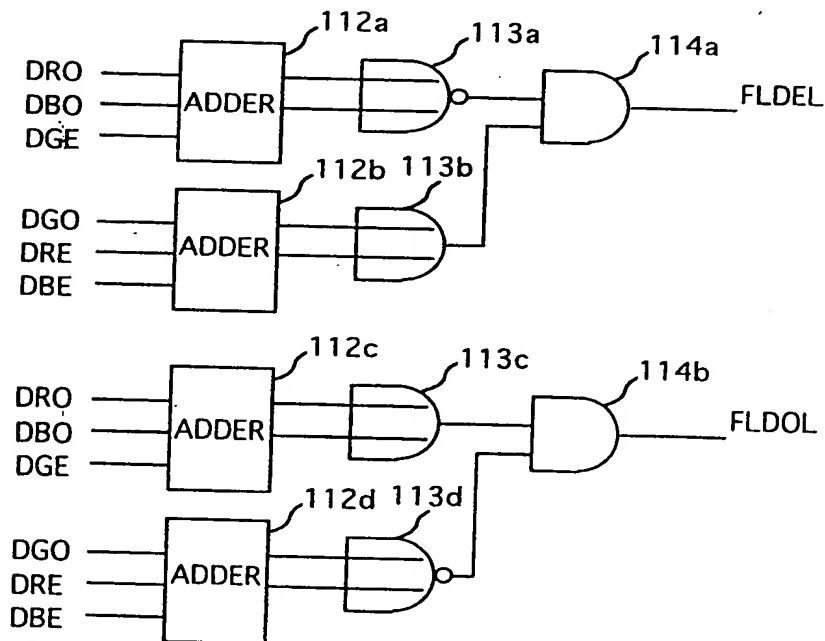


FIG. 40
 DYNAMIC RANGE DESIGNATING PORTION

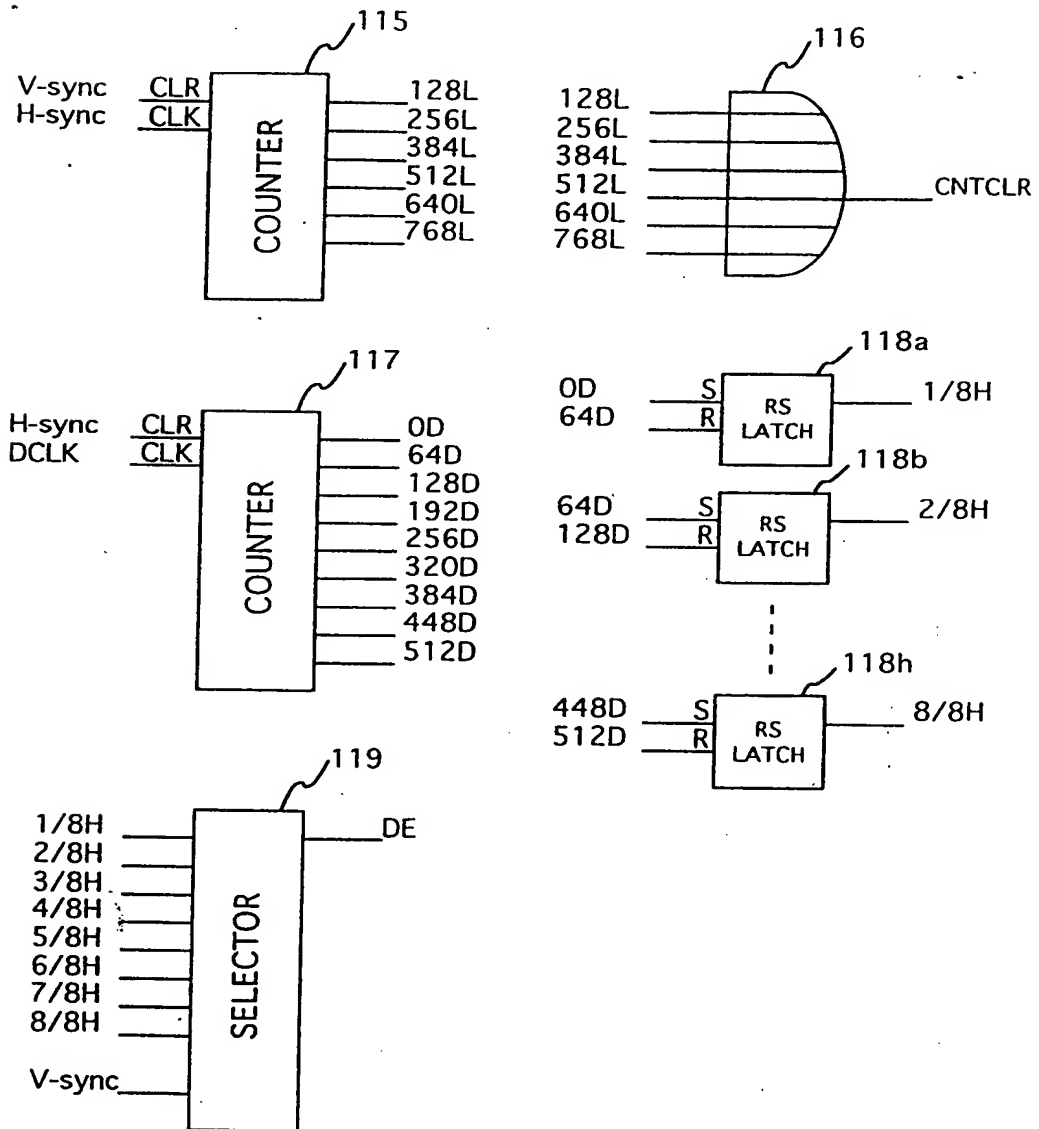


FIG. 41

FLICKER INFORMATION STORING PORTION

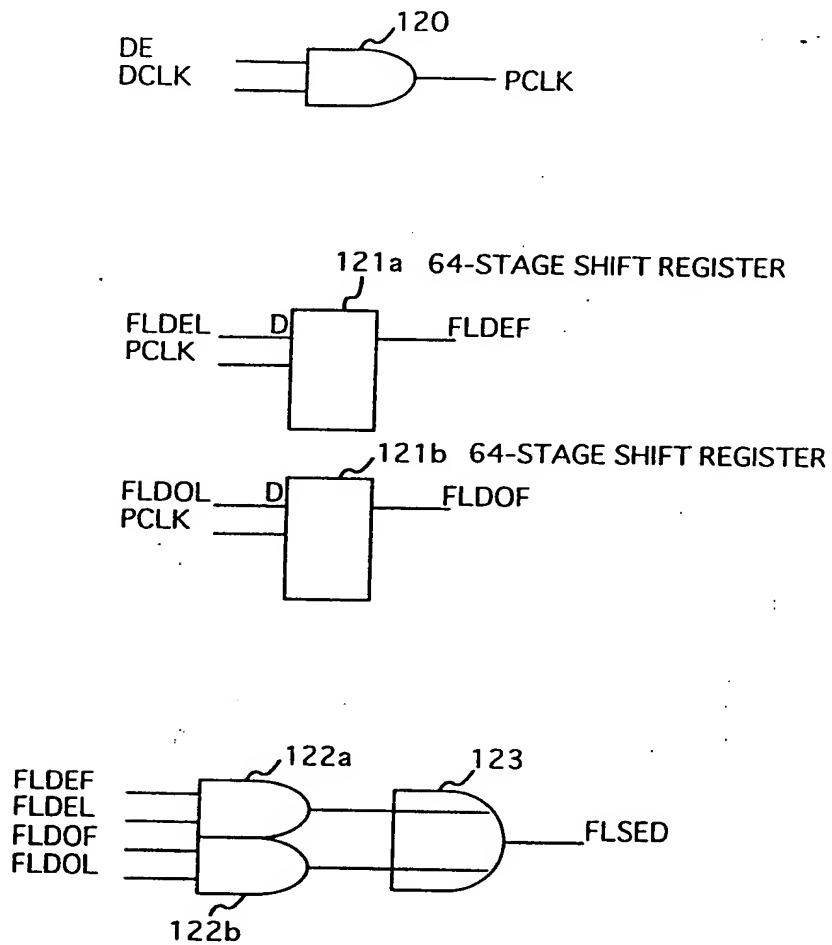


FIG. 42
 FLICKER INFORMATION STORING PORTION

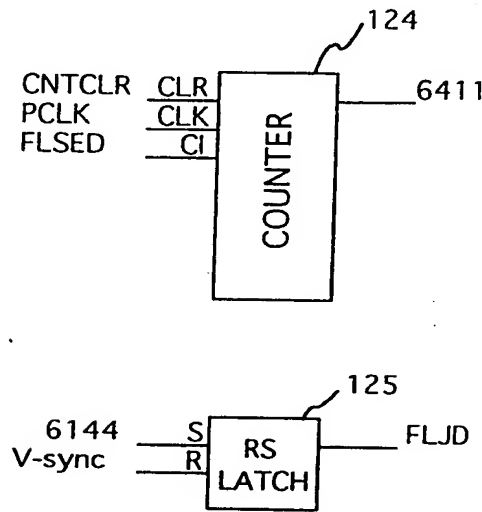
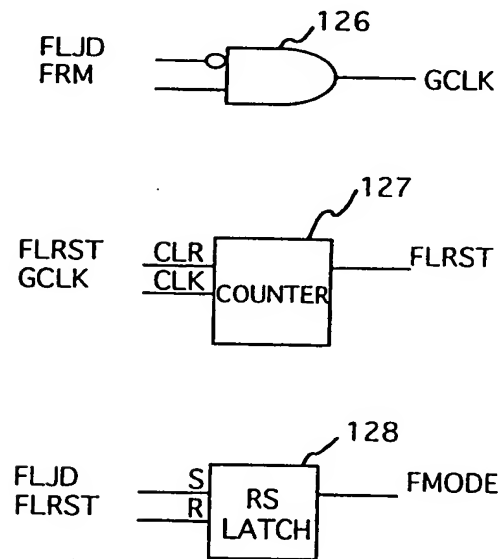


FIG. 43
 DRIVE MODE SELECTING PORTION



FLICKER PATTERN DECISION

FIG. 44A

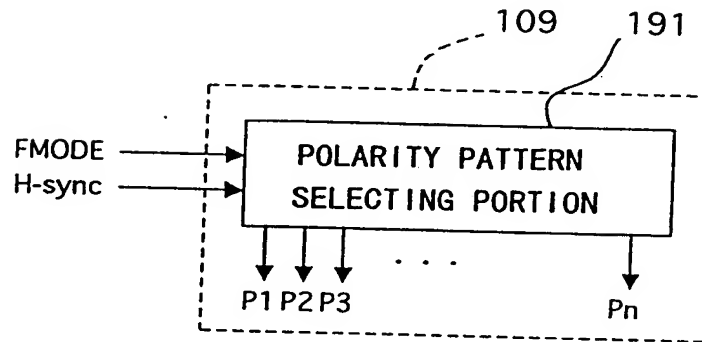
o	x	o	x	o	x
---	---	---	---	---	---

FIG. 44B

x	o	x	o	x	o
---	---	---	---	---	---

FIG. 45

DATA DRIVER



FLICKER PATTERN

FIG. 46A

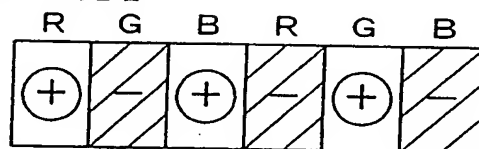


FIG. 46G

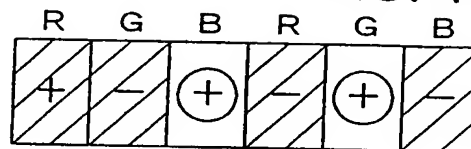


FIG. 46B

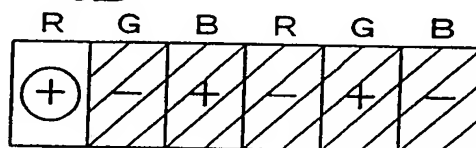


FIG. 46H

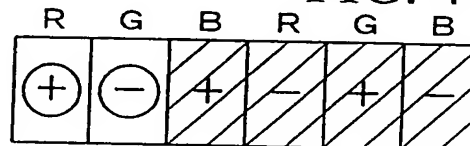


FIG. 46C

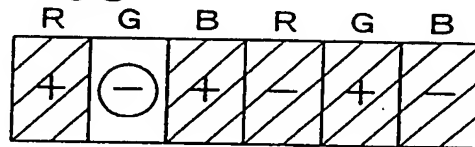


FIG. 46I

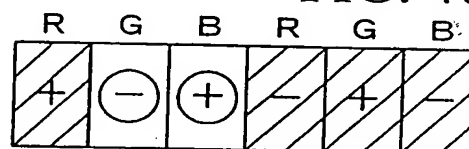


FIG. 46D

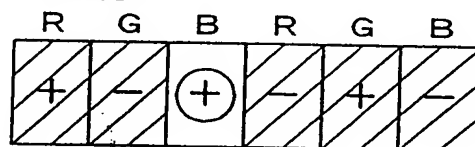


FIG. 46J

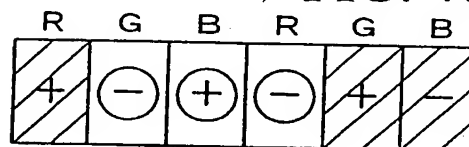


FIG. 46E

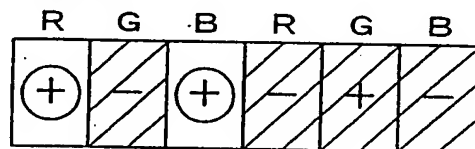


FIG. 46K

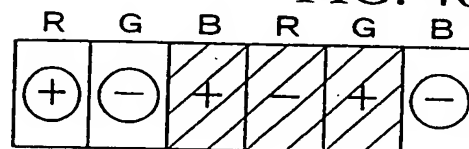


FIG. 46F

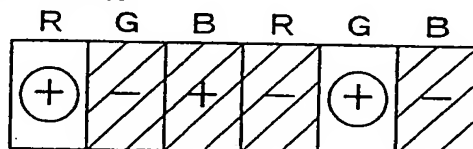
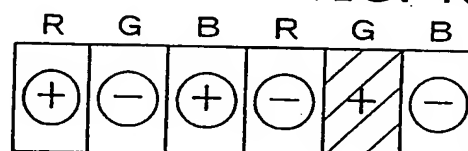


FIG. 46L



TURN-ON



TURN-OFF

EXAMPLE OF FLICKER PATTERN AND EXCEPTION PATTERN

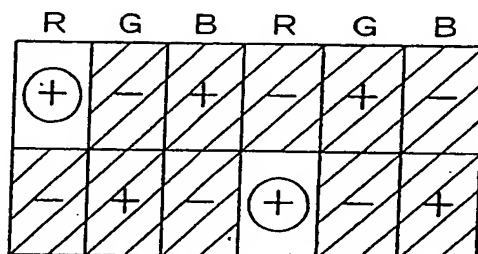


FIG. 47A

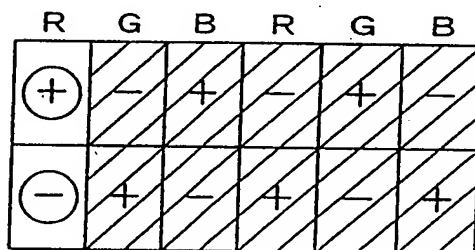


FIG. 47B

FIG. 48

VERTICAL-STRIPED PATTERN DECISION

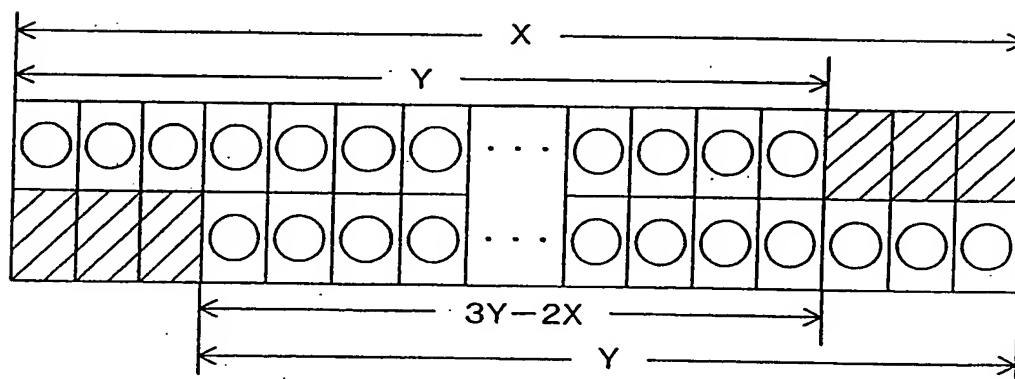


FIG. 49

2-DOT CHECKER PATTERN

























	RO	GO	BO	RE	GE	BE
N						
N+1						
N+2						
N+3						

FIG. 50

EXAMPLE OF SPECIAL PATTERN

























	RO	GO	BO	RE	GE	BE
N						
N+1						
N+2						
N+3						

FIG. 51

VERTICAL LINE INVERTED POLARITY PATTERN

N	+	-	+	-	+	-
N+1	+	-	+	-	+	-
N+2	+	-	+	-	+	-
N+3	+	-	+	-	+	-

FIG. 52

HORIZONTAL LINE INVERTED POLARITY PATTERN

N	+	+	+	+	+	+
N+1	-	-	-	-	-	-
N+2	+	+	+	+	+	+
N+3	-	-	-	-	-	-

FIG. 53

LIQUID CRYSTAL DISPLAY PANEL DRIVER CIRCUIT

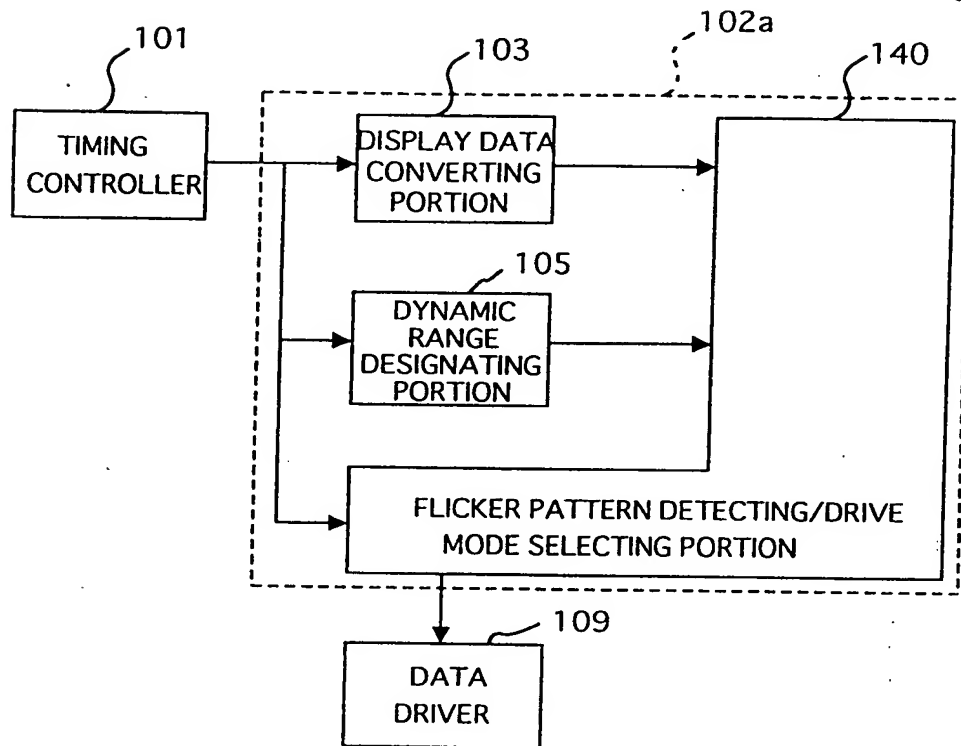


FIG. 54
FLICKER PATTERN DETECTING/DRIVE MODE
SELECTING PORTION (No. 1)

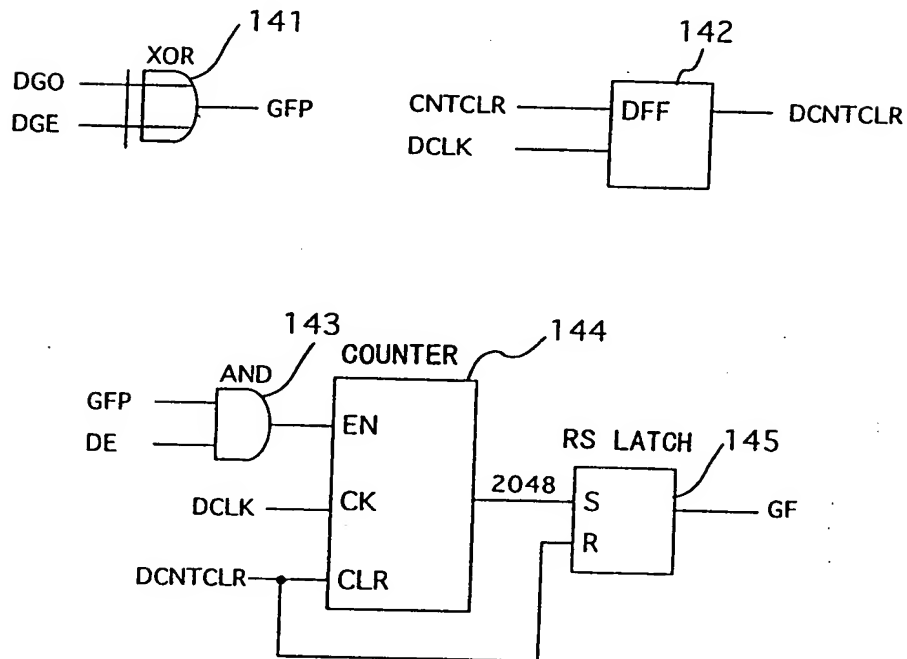


FIG. 55

FLICKER PATTERN DETECTING/DRIVE MODE SELECTING PORTION (No. 2)

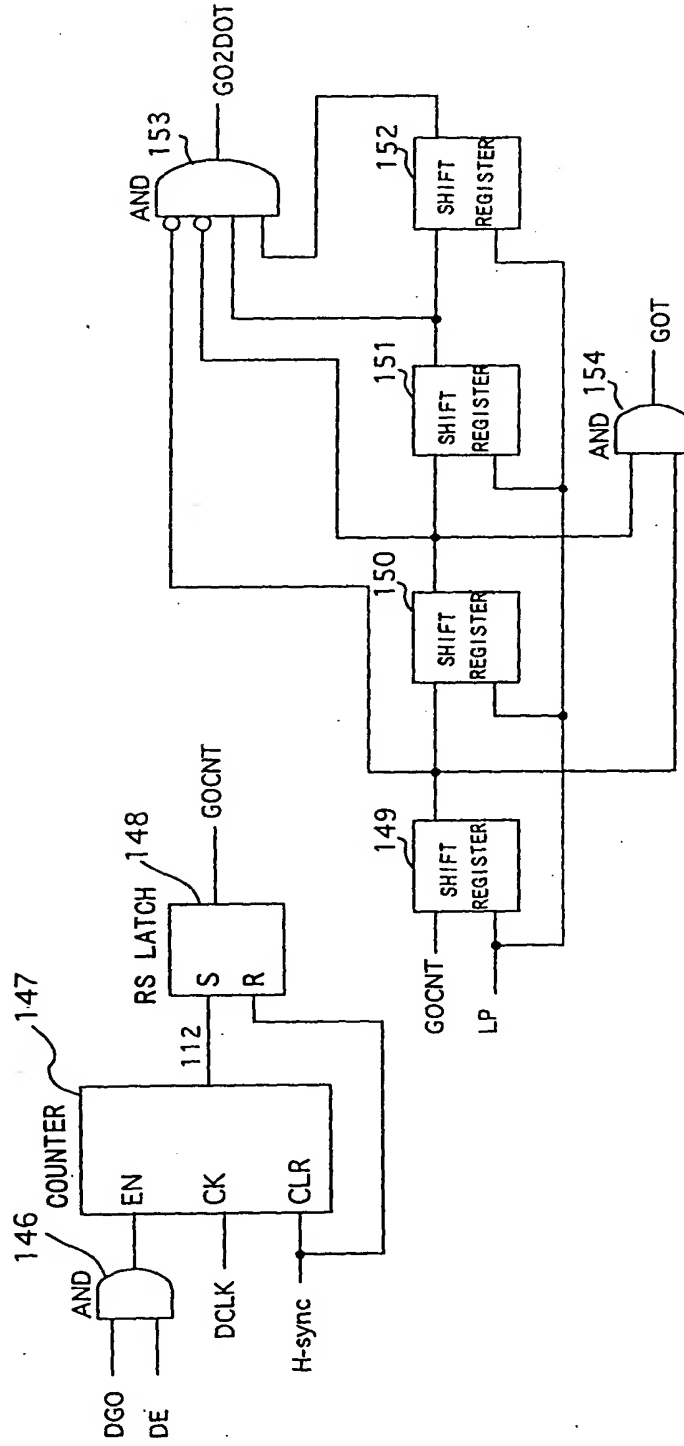


FIG. 56

FLICKER PATTERN DETECTING/DRIVE MODE SELECTING PORTION (No. 3)

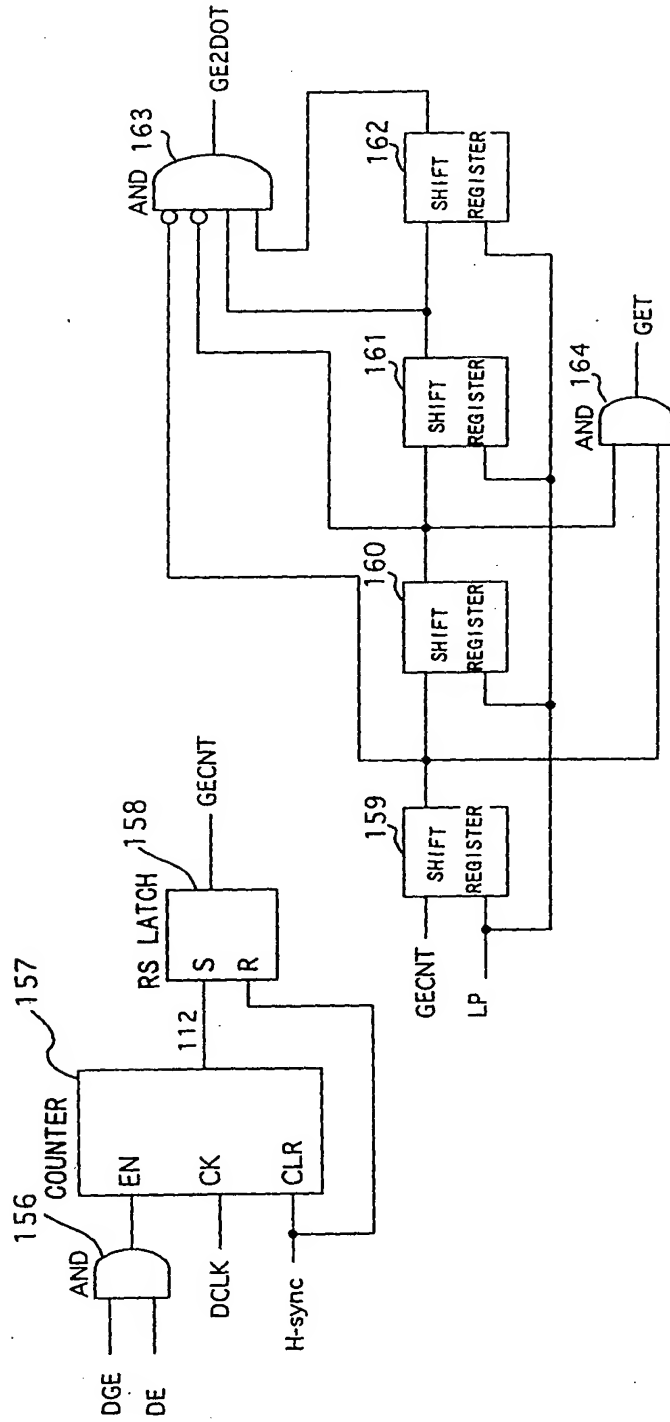


FIG. 57
FLICKER PATTERN DETECTING/DRIVE MODE
SELECTING PORTION (No. 4)

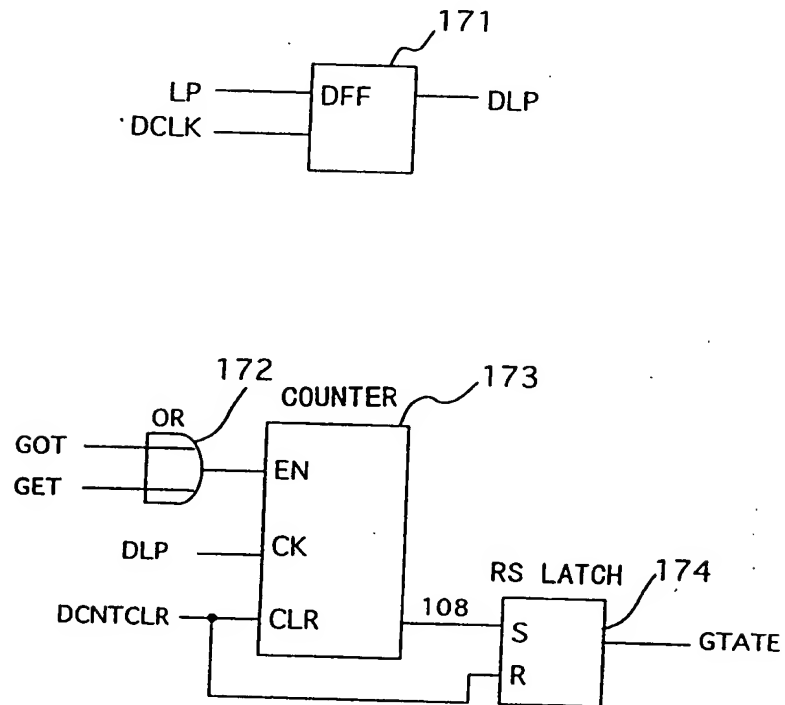


FIG. 58

FLICKER PATTERN DETECTING/DRIVE MODE
SELECTING PORTION (No. 5)

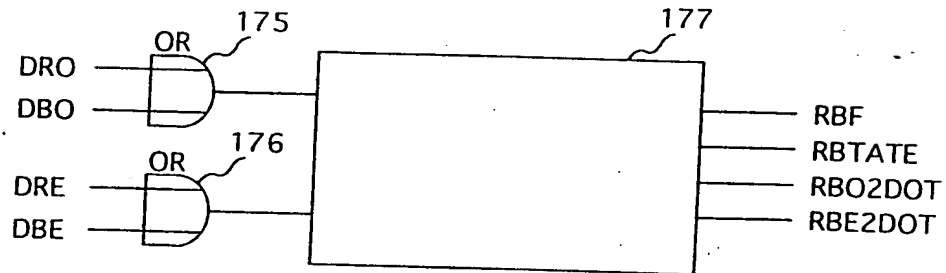


FIG. 59

FLICKER PATTERN DETECTING/DRIVE MODE
SELECTING PORTION (No. 6)

